

CLAIMS

What is claimed is:

1. A flushing system for a marine propulsion system comprising:
 - an attachment means that allows for cooling fluid to flow into said system;
 - an attachment means that allows for cooling fluid to flow out of said system;
 - a first extension means that connects the upstream cooling fluid to the flushing system inlet thereby allowing the flushing system to be located some distance from said propulsion system;
 - a second extension means that connects the flushing system outlet to the downstream cooling fluid thereby allowing the flushing system to be located some distance from said propulsion system; and
 - a means for regulating flow and/or pressure of cooling fluids into and out of said system.
2. The flushing system as set forth in Claim 1 and further having a body that has a plurality of chambers so as to allow for various fluids to enter the system and be directed into a plurality of directions, the body comprising:
 - an inlet that is attached to the said upstream cooling fluid extension means;
 - an outlet that is attached to the said downstream cooling fluid extension means;
 - a common chamber disposed between the inlet and outlet, said common chamber having a plurality of sections that allow for fluid directing, metering, or regulating means to be inserted, repositioned, retained, or removed to direct, meter, or regulate the flow or pressure of fluids into and out of the flushing system;
 - a feature that allows for the directional installation of said flushing system relative to the vessel's cooling fluid flow path; and

a feature that allows for the attachment of measuring means used for measuring attributes of the fluid passing through the flushing system.

3. The flushing system as set forth in Claim 1 and further having an extending portion that can direct fluid to the rest of said common chamber or direct fluid out of said common chamber; and

an extending portion that contains sealing means that ensures that fluids flow through and not around said extending portion.

4. The body as set forth in Claim 2 and further having a plurality of holding features that allow for the fluid directing, metering, or regulating means to be inserted, repositioned, retained or removed; and

a plurality of indicating symbols and/or alphanumerics that aid in the inserting, repositioning, retaining, or removing of said fluid directing, metering, or regulating means.

5. The flushing system as set forth in Claim 1 and further having directing, metering, or regulating means that can be inserted, repositioned, retained or removed from said body comprising:

a plurality of sealing means that ensure that fluids passing through or around the directing, metering, or regulating means do so without leaking into portions of the flushing system not intended for fluids or without leaking out of the flushing system;

a feature that allows said body to retain said directing, metering, or regulating means in a manner that prevents the directing, metering, or regulating means from accidentally coming out of the body or changing position;

a plurality of openings that allow for multi -directional full fluid flow through the directing, metering, or regulating means, multi -directional metered fluid flow through the

directing, metering, or regulating means, and/or multi -directional regulated fluid flow through the directing, metering, or regulating means;

a turning means used to facilitate the inserting, repositioning, and/or removing of said directing, metering, or regulating means; and

a feature that allows for the direct measuring of attributes of the fluids passing through the directing, metering, or regulating means.

6. The directing, metering, or regulating means as set forth in Claim 5 and further having a retaining means that allows the directing, metering, or regulating means to remain tethered to the flushing system without interfering with system functions so as to prevent accidental loss of said directing, metering, or regulating means.

7. The flushing system as set forth in Claim 1 and further having directing, metering, or regulating means that can be inserted, repositioned, retained or removed from said body comprising:

a plurality of sealing means that ensure that fluids passing through or around the directing, metering, or regulating means do so without leaking into portions of the flushing system not intended for fluids or without leaking out of the flushing system;

a feature that allows said body to retain said directing, metering, or regulating means in a manner that prevents the directing, metering, or regulating means from accidentally coming out of the body or changing position;

a plurality of openings that allow for multi-directional full fluid flow through the directing, metering, or regulating means, multi -directional metered fluid flow through the directing, metering, or regulating means, or multi -directional regulated fluid flow through the directing, metering, or regulating means; and

a turning means used to facilitate the insertion, rotation, and removal of said directing, metering, or regulating means.

8. The directing, metering, or regulating means as set forth in Claim 7 and further having a fluid redirecting means comprising:

a redirecting means that causes a portion of the fluid flow to be diverted along a path different from the main fluid flow path; and

a fluid redirecting means that causes the diverted fluid to rejoin the main fluid flow path.

9. The directing, metering, or regulating means as set forth in Claim 7 and further having a fluid modifying means comprising:

a modifying means that may direct, meter, or regulate fluid passing through the flushing system equally in any direction; and

a modifying means that may direct, meter, or regulate fluid passing through the flushing system more in one direction than in another.

10. The directing, metering, or regulating means as set forth in Claim 7 and further having a fluid modifying means comprising:

a fluid modifying means that can be adjusted to modify the fluids passing through the flushing system during the flushing cycle and readjusted for normal operation; or

a fluid modifying means that continuously modifies the fluids passing through the flushing system.

11. The adjustable fluid modifying means as set forth in Claim 10 and further having a safety function, said safety function allows the adjustable fluid modifying means to be left in the wrong position after flushing the vessel and not adversely affect the vessel's propulsion system.

12. The directing, metering, or regulating means as set forth in Claim 7 and further having an opening that allows for the insertion, retention, and removal of a flushing fluid conduit that is used to bring flushing fluid into the flushing system.

13. The directing, metering, or regulating means as set forth in Claim 7 and further having an opening designed so that said directing, metering, or regulating means can be left in the flushing system while the flushing fluid conduit is inserted, retained, or removed from the flushing system; and

an opening designed so that said directing, metering, or regulating means can be removed from the flushing system prior to having the flushing fluid conduit inserted, retained, or removed, and then having the directing, metering, or regulating means with attached flushing fluid conduit reinserted into the flushing system.

14. The directing, metering, or regulating means as set forth in Claim 7 and further having a retaining means that allows the directing, metering, or regulating means to remain tethered to the flushing system body without interfering with system functions so as to prevent accidental loss of said directing, metering, or regulating means.

15. The directing, metering, or regulating means as set forth in Claim 7 and further having an opening that allows for the insertion, retention, and removal of a flushing fluid conduit sealing means comprising:

a turning means used to facilitate the insertion, retention, and removal of said flushing fluid conduit sealing means; and

a sealing means that ensures that fluid passing into or by said flushing fluid conduit sealing means does so without leaking into portions of the flushing system not intended for fluid or without leaking out of the flushing system.

16. The flushing fluid conduit sealing means as set forth in Claim 15 and further having a material that allows said flushing fluid conduit sealing means to be transparent or translucent so as to facilitate viewing the fluids passing through the flushing system.

17. The flushing fluid conduit sealing means as set forth in Claim 15 and further having a retaining means that allows the flushing fluid conduit sealing means to remain tethered to the flushing system body or the directing, metering, or regulating means without interfering with system functions so as to prevent accidental loss of said flushing fluid conduit sealing means.

18. The flushing system as set forth in Claim 1 that can be used as an emergency high volume fluid pump comprising:

a fluid directing means that can direct fluid normally destined for cooling the engine overboard or into a drain; and

a fluid directing means normally connected to the flushing system that can be used as the inlet for the engine's cooling system, said fluid directing means would be placed into the water that needed to be removed from the vessel.

19. The directing, metering, or regulating means as set forth in Claim 7 and further having the ability to be used without the directing, metering, or regulating means as set forth in Claim 5 for specific flushing circumstances.